HOW-TO GUIDE

A Guide to Applying Teacher-Led Innovation for Preschool Teachers

FRIENDSHIP WITH NUMBERS

JULY 2026

01 Introduction of Innovation

This guideline is prepared to introduce, explain, and provide practical steps for applying the innovation “Friendship with Numbers.” It is designed so that teachers in other schools can also use this successful experience in their own classes. This innovation focuses on active learning, learning through play, and connecting learning with children’s daily lives.

This approach is developed to strengthen children’s thinking skills and number skills. Children learn numbers through games and real-life objectives. Through fun activities, planned games, and the use of simple materials such as beads, buttons, cards, peach seeds, small stones, sticks, dolls, blocks, and other easy teaching tools, children become familiar with numbers.

This method changes learning from a dry and repetitive process into a practical, enjoyable, and effective experience. While playing, children touch numbers, count them, compare them, and through repeated practice, they gain a deeper understanding of number concepts.

These activities also help children develop social skills, help children focus better, increase hand-eye coordination, and help children work together.

Learning numbers through play and real objects not only increases children’s interest in numbers but also builds a strong foundation for more advanced learning in the future.

- Children’s creativity and innovation skills grow.
- Children’s communication and cooperation skills are strengthened.

02 Principles of Implementation

Alignment and relevance: This innovation is aligned with the national education priorities and the curriculum framework. It supports comprehensive learning outcomes according to the level of pre-primary education and its key priorities.

Simplicity: This innovation is suitable for teachers to easily understand and use. It fits naturally with their daily teaching methods and routines. It is also flexible, so teachers can adapt it to their own class needs. It offers a range of approaches—from simple and easy activities to more comprehensive solutions, so it can be used in different environments and at experience levels.

This innovation was developed by a group of schoolteachers in cooperation with a pre-primary teacher. It is based on real classroom experiences, needs, and challenges. It is practical, engaging, and easy to use.

Inclusiveness: This innovation promotes equal and active participation of all students, especially those in low-resource, rural, or marginalized communities. It also considers gender balance, different literacy levels, and the learning needs of children with disabilities.

Impact: The learning results of students are based on tested evidence. Based on collected data and teachers' feedback, it improves overall learning outcomes.

02 Principles of Implementation continued

Sharing and dissemination: Clear structure, methods, and resources are provided. This guideline is prepared to support wide sharing of this innovation, like a practical handbook.

Sustainability: This approach builds long-term capacity to support pre-primary teachers beyond one-time training. It strengthens professional learning, mentoring, and peer support, and helps create lasting capacity for applying the innovation.

Recognition of innovation and respect for innovators: It is very important to recognize and celebrate teachers who design original innovations. Acknowledging teachers' work strengthens teacher-led approaches and encourages wider participation.

Pre-school children take part in a number-recognition activity.

03 Practical Steps

1. Needs analysis and identifying learning challenges
2. Designing number-learning activities based on children’s age and ability
3. Using local, low-cost, and simple materials
4. Implementing activities as individual and group games
5. Monitoring, evaluation, and documenting changes
6. Involving parents and the education council in the learning process

Counting and stacking with everyday materials.

04 Sample Activities

A. Language Learning

- Teacher makes puzzles with letters
- Children arrange letters to make words (like school)
- Advanced children can build words from pictures
- Teacher connects letters with counting to support math

Benefit: Children learn letters and read in a fun way

B. Math Learning

- Show videos about numbers once a week
- Children arrange numbers in order
- “Find the number” activity in the classroom
- “What did you see and hear?” activity outside the class
- “Find and cover” number game
- Number puzzle game (1 to 10)
- Use + and – signs to solve simple equations
- “See and write” activity (remember and write what they saw)
- Match numbers with objects (like putting correct number of items)

04 Sample Activities continued

C: Preparing low-cost and no-cost learning materials

Teachers use natural and simple materials to make teaching tools. For example: making number flash cards from cardboard, using sticks for counting, making blocks from wood pieces, using peach seeds for counting, and making a math album from charts.

Free drawing: Children work alone, in pairs, or in groups. They are given paper, pencils, and color pens. They draw anything they like and write their name on the paper. Then teachers collect the drawings, check them at home, and the next day they show the best drawings and praise the creative children. This activity is done once a week on Monday.

Fun with numbers: In this activity, children get numbers from 1 to 20 written with dotted lines (not complete). They are divided into two groups. First, they join the dots to complete the numbers. Then one group colors the numbers green and the other group colors them blue. Children have 15 minutes to finish. At the end, the teacher checks the work carefully, and the group with better work is the winner. This activity is done two days a week in different ways.

Making shapes from circles: In this activity, older children first draw circles on paper (one for each child). Then children are divided into two groups, and each child gets one paper. Each child uses their imagination to make a different picture from the circle. After that, every child explains their work. This activity is done once a week on Sunday.

04 Sample Activities continued

D. Health and Science

1. Knowing the five senses: In this activity, children are taken outside the classroom and divided into groups.

Group 1 works on seeing (eyes)

Group 2 works on hearing (ears)

Group 3 works on taste (tongue)

Group 4 works on touch (hands/skin)

Group 5 works on smell (nose)

Each group gets materials related to their senses and works with them. Then, one child from each group shares the ideas of their group.

This activity is done once every two weeks on Tuesday. The teacher explains the results in easy words and connects them to children's daily life.

Materials: sugar, perfume, apple, bird recording, cloth, etc.

E. Non-Academic Learning

Social and emotional skills: When children play together in groups or do number activities, they learn how to take turns, work with others, and control their feelings.

These skills are very important for good social behavior and personal growth. Children learn how to communicate with others and be active in a group.

06 Measuring Learning Results

Monthly assessment: Teachers check the children’s learning at the end of every month. They write down the results and compare them with children who are not part of this group.

Monthly/quarterly meetings with parents: Teachers talk with parents about the children’s learning improvement, especially about creativity and new ideas. The results of these discussions are written in the meeting book.

Children’s progress record book: Teachers record children’s learning progress, especially number recognition, every day. At the end of the month, they review which children improved well and which children need more help.

Using checklist forms: Children’s learning progress is checked using forms (in daily activities and non-academic areas).

Initial and final assessments: Every year, at the beginning and end of the school year, teachers do assessments to measure children’s learning. They compare the results, especially for number recognition.

Involving parents: By involving parents in children's learning and recording their opinions and feedback, we can measure and improve the quality of this program.

07 Role of Parents and Community

Encouraging parents to give practice opportunities at home, using games and simple materials, and strengthening communication between teachers and parents to better support children's learning.

08 Expected Results

Increase in students' interest, improvement in recognizing, reading, and writing numbers, building self-confidence, and making learning enjoyable.